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0102

#7

OIPE

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/915,515A

DATE: 01/04/2002  
 TIME: 15:10:06

Input Set : A:\seq.txt  
 Output Set: N:\CRF3\01042002\I915515A.raw

ENTERED

1 <110> APPLICANT: Taylor, Garry  
 2 Portner, Allen  
 3 Takimoto, Toru  
 4 Babu, Y. Sudhakar  
 5 Rowland, R. Scott  
 7 <120> TITLE OF INVENTION: Three Dimensional Structure of Paramyxovirus Hemagglutinin-  
 Neuraminidase  
 8 and Uses Thereof  
 10 <130> FILE REFERENCE: 1663/00142  
 12 <140> CURRENT APPLICATION NUMBER: US/09/915,515A  
 12 <141> CURRENT FILING DATE: 2001-12-18  
 12 <160> NUMBER OF SEQ ID NOS: 1  
 14 <210> SEQ ID NO: 1  
 16 <211> LENGTH: 577  
 18 <212> TYPE: PRT  
 20 <213> ORGANISM: Newcastle Disease Virus (Kansas Strain)  
 22 <400> SEQUENCE: 1  
 23 Met Asp Arg Ala Val Ser Gln Val Ala Leu Glu Asn Asp Glu Arg Glu  
 24 1 5 10 15  
 26 Ala Lys Asn Thr trp Arg Leu Ile Phe Arg Ile Ala Ile Leu Leu Leu  
 27 20 25 30  
 29 Thr Val Val Thr Leu Ala Thr Ser Val Ala Ser Leu Val Tyr Ser Met  
 30 35 40 45  
 32 Gly Ala Ser Thr Pro Ser Asp Leu Val Gly Ile Pro Thr Arg Ile Ser  
 33 50 55 60  
 35 Arg Ala Glu Glu Lys Ile Thr Ser Ala Leu Gly Ser Asn Gln Asp Val  
 36 65 70 75 80  
 38 Val Asp Arg Ile Tyr Lys Gln Val Ala Leu Glu Ser Pro Leu Ala Leu  
 39 85 90 95  
 41 Leu Asn Thr Glu Thr Thr Ile Met Asn Ala Ile Thr Ser Leu Ser Tyr  
 42 100 105 110  
 44 Gln Ile Asn Gly Ala Ala Asn Asn Ser Gly trp Gly Ala Pro Ile His  
 45 115 120 125  
 47 Asp Pro Asp Phe Ile Gly Gly Ile Gly Lys Glu Leu Ile Val Asp Asn  
 48 130 135 140  
 50 Ala Ser Asp Val Thr Ser Phe Tyr Pro Ser Ala Phe Gln Glu His Leu  
 51 145 150 155 160  
 53 Asn Phe Ile Pro Ala Pro Thr Thr Gly Ser Gly Cys Thr Arg Ile Pro  
 54 165 170 175  
 56 Ser Phe Asp Met Ser Ala Thr His Tyr Cys Tyr Thr His Asn Val Ile  
 57 180 185 190  
 59 Leu Ser Gly Cys Arg Asp His Ser His Ser His Gln Tyr Leu Ala Leu  
 60 195 200 205  
 62 Gly Val Leu Arg Thr Thr Ala Thr Gly Arg Ile Phe Phe Ser Thr Leu  
 63 210 215 220  
 65 Arg Ser Ile Ser Leu Asp Asp Thr Gln Asn Arg Lys Ser Cys Ser Val  
 66 225 230 235 240  
 68 Ser Ala Thr Pro Leu Gly Cys Asp Met Leu Cys Ser Lys Val Thr Glu

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69					245					250					255		
71	Thr	Glu	Glu	Glu	Asp	Tyr	Asn	Ser	Ala	Val	Pro	Thr	Leu	Met	Ala	His	
72				260					265					270			
74	Gly	Arg	Leu	Gly	Phe	Asp	Gly	Gln	Tyr	His	Glu	Lys	Asp	Leu	Asp	Val	
75			275					280					285				
77	Thr	Thr	Leu	Phe	Glu	Asp	trp	Val	Ala	Asn	Tyr	Pro	Gly	Val	Gly	Gly	
78		290					295					300					
80	Gly	Ser	Phe	Ile	Asp	Gly	Arg	Val	trp	Phe	Ser	Val	Tyr	Gly	Gly	Leu	
81	305					310					315					320	
83	Lys	Pro	Asn	Ser	Pro	Ser	Asp	Thr	Val	Gln	Glu	Gly	Lys	Tyr	Val	Ile	
84					325					330					335		
86	Tyr	Lys	Arg	Tyr	Asn	Asp	Thr	Cys	Pro	Asp	Glu	Gln	Asp	Tyr	Gln	Ile	
87				340					345					350			
89	Arg	Met	Ala	Lys	Ser	Ser	Tyr	Lys	Pro	Gly	Arg	Phe	Gly	Gly	Lys	Arg	
90			355					360					365				
92	Ile	Gln	Gln	Ala	Ile	Leu	Ser	Ile	Lys	Val	Ser	Thr	Ser	Leu	Gly	Glu	
93		370					375					380					
95	Asp	Pro	Val	Leu	Thr	Val	Pro	Pro	Asn	Thr	Val	Thr	Leu	Met	Gly	Ala	
96	385					390				395						400	
98	Glu	Gly	Arg	Ile	Leu	Thr	Val	Gly	Thr	Ser	His	Phe	Leu	Tyr	Gln	Arg	
99					405					410					415		
101	Gly	Ser	Ser	Tyr	Phe	Ser	Pro	Ala	Leu	Leu	Tyr	Pro	Met	Thr	Val	Ser	
102				420					425				430				
104	Asn	Lys	Thr	Ala	Thr	Leu	His	Ser	Pro	Tyr	Thr	Phe	Asn	Ala	Phe	Thr	
105			435					440					445				
107	Arg	Pro	Gly	Ser	Ile	Pro	Cys	Gln	Ala	Ser	Ala	Arg	Cys	Pro	Asn	Ser	
108		450					455					460					
110	Cys	Val	Thr	Gly	Val	Tyr	Thr	Asp	Pro	Tyr	Pro	Leu	Ile	Phe	Tyr	Arg	
111	465					470				475					480		
113	Asn	His	Thr	Leu	Arg	Gly	Val	Phe	Gly	Thr	Met	Leu	Asp	Ser	Glu	Gln	
114					485					490					495		
116	Ala	Arg	Leu	Asn	Pro	Ala	Ser	Ala	Val	Phe	Asp	Ser	Thr	Ser	Arg	Ser	
117				500				505					510				
119	Arg	Ile	Thr	Arg	Val	Ser	Ser	Ser	Ser	Thr	Lys	Ala	Ala	Tyr	Thr	Thr	
120		515					520					525					
122	Ser	Thr	Cys	Phe	Lys	Val	Val	Lys	Thr	Asn	Lys	Thr	Tyr	Cys	Leu	Ser	
123		530					535					540					
125	Ile	Ala	Glu	Ile	Ser	Asn	Thr	Leu	Phe	Gly	Glu	Phe	Arg	Ile	Val	Pro	
126	545					550				555					560		
128	Leu	Leu	Val	Glu	Ile	Leu	Lys	Asn	Asp	Gly	Val	Arg	Glu	Ala	Arg	Ser	
129					565					570					575		
131	Gly																

VERIFICATION SUMMARY

DATE: 01/04/2002

PATENT APPLICATION: US/09/915,515A

TIME: 15:10:07

Input Set : A:\seq.txt

Output Set: N:\CRF3\01042002\I915515A.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No

L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date